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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,611	04/28/2006	Mysore Narayan Rekha	026033.00032	2254
38485	7590	10/09/2008	EXAMINER	
ARENT FOX LLP 1675 BROADWAY NEW YORK, NY 10019			KRAUSE, ANDREW E	
			ART UNIT	PAPER NUMBER
			4152	
			NOTIFICATION DATE	DELIVERY MODE
			10/09/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

NYIPDocket@arentfox.com
Patent_Mail@arentfox.com

Office Action Summary	Application No. 10/536,611	Applicant(s) REKHA ET AL.	
	Examiner ANDREW KRAUSE	Art Unit 4152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: It was not executed in accordance with either 37 CFR 1.66 or 1.68.

The inventors signatures are absent from the Oath/Declaration.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 1 recites the limitation "fruit pulp" in part (v). There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. **Claims 1-4, 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Janda et al (US #5,731,018) in view of Mouri et al (US #4,275,648).

4. Janda discloses a process for preparing fruit spread, wherein the process does not include the addition of a sugar, sweetener, pectin or gum, with no added sugar, said process comprising the steps of:

(i) **preparing fruit pulp by crushing fruits** (column 2, lines 12-16),

(ii) **incubating the pulp with 0.75-1.25% pectolytic enzyme** of enzyme activity

1590 units/ml of PolyGalactouronase and 17.7 units/gm of Pectin Methyl Esterase **at 27-40°C for a period of 20 to 40 minutes to allow the pulp to liquefy** and thereby lowering the viscosity of the pulp by 60-80% (column 2 lines 58-61, example 2);

(iii) heating of the enzyme treated pulp to inactivate the enzyme with proper mixing to attain a temperature of 65-75°C followed by immediate cooling to room temperature of 27-30°C and, filtration through muslin cloth to get strained fruit juice;

(iv) **concentrating the strained fruit juice** by employing vacuum evaporation using thin film evaporator at the temperature of 40-45°C with system pressure (vacuum 22-24 inches) **to obtain high total soluble solids of 70-72° Brix** (example 2);

(v) **incubating the fruit juice concentrate** with 0.75-1.25% pectolytic enzyme of enzyme activity - 1590 units/ml of PolyGalactouronase and 17.7 units/gm of Pectin Methyl Esterase **at 27-40°C for a period of 20-40 minutes to reduce the viscosity of the fruit pulp** by 30-50% (example 2); and

(vi) mixing 20 to 30% of fruit juice concentrate with the fruit pulp of step (v) to obtain a mixture

having total soluble solids content from 30-45° Brix, followed by boiling the mixture to obtain a fruit spread of 68-70° Brix.

5. Regarding **part (ii)** it would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the enzyme activities and quantity of enzyme used for the intended application, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). Regarding the temperature disclosed in **part (ii)**, Janda discloses a temperature range for incubating the pulp from 10-60° C. “Selecting a narrow range from within a somewhat broader range disclosed in a prior art reference is no less obvious than identifying a range that simply overlaps a disclosed range. In fact, when, as here, the claimed ranges are completely encompassed by the prior art, the conclusion is even more compelling than in cases of mere overlap. The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). Carrying out the incubation with enzyme under these conditions will thereby reduce the viscosity of the pulp as claimed.

6. Regarding **part (iii)**, Janda fails to disclose heating of the enzyme treated pulp to inactivate the enzyme with proper mixing to attain a temperature of 65-75°C followed by immediate cooling to room temperature of 27-30°C and, filtration through muslin cloth to get strained fruit juice. However, Mouri et al. disclose a method for producing strained fruit juice wherein the fruit pulp mixture is heated to 100°C to deactivate the enzyme, followed by cooling to room temperature, and then filtered (column 2, lines 54-60 of Mouri).

7. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F. 2d 454, 456, 109 USPQ 233, 235 (CCPA). In this case Mouri et al do not specify the workable temperature ranges for deactivating the pectolytic enzyme, but they do describe the general condition conditions of the claim, namely, using a high temperature for the deactivation. It would not be inventive to discover the workable ranges by routine experimentation of the invention as taught by Mouri et al.

8. It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the method for producing a fruit concentrate as disclosed by Janda with the raising of the pulp temperature prior to cooling and filtration as disclosed by Mouri et al, because the increase in temperature deactivates the enzyme (Mouri column 2, lines 54-60), thereby stopping the decomposition reaction.

9. Regarding **part (iv)**, Janda discloses concentrating the strained fruit juice to obtain a fruit juice with total soluble solids of 72° Brix (example 2, column 4, lines 28-34). However, Janda fails to disclose that the concentrating occurs using a thin film evaporator at a temperature of 40-45° C with a system pressure (vacuum 22-24 inches). However, Mouri et al disclose a method for concentrating similar fruit concentrates using a thin film evaporator (column 6, lines 35-40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the temperature and system pressure for the intended application, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980)

10. It would have been obvious to one having ordinary skill in the art at the time of the invention to use a thin film evaporator as disclosed by Mouri et al to perform the concentration of a fruit juice as disclosed by Janda, because thin film evaporators are efficient devices for concentrating liquids (Mouri, column 6, lines 35-40).

11. Regarding part **(v)** Janda discloses incubating the fruit juice concentrate a second time with a pectolytic enzyme for 40 minutes (example 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the enzyme activities and quantity of enzyme used for the intended application, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). Regarding the temperature disclosed in **part (ii)**, Janda discloses a temperature range for incubating the pulp from 10-60° C. “Selecting a narrow range from within a somewhat broader range disclosed in a prior art reference is no less obvious than identifying a range that simply overlaps a disclosed range. In fact, when, as here, the claimed ranges are completely encompassed by the prior art, the conclusion is even more compelling than in cases of mere overlap. The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). Carrying out the incubation with enzyme under these conditions will thereby reduce the viscosity of the pulp as claimed.

12. Regarding part **(vi)**, at the end of step **(v)**, the fruit juice concentrate is still mixed with the fruit pulp of step **(v)**. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the Brix concentration for the intended

application, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980)

13. Regarding **claim 2**, Janda discloses the use of apples (example 2).

14. Regarding **claim 3**, as demonstrated in the rejection to claim 1 above, Janda in view of Mouri discloses using the liquefaction of pulpy fruits by the addition of a pectinolytic enzyme. Although a specific degree of viscosity reduction is not disclosed, since Janda in view of Mouri carry out the process under the conditions as claimed, the process will result in the same extent of viscosity reduction.

15. Regarding **claim 4**, Janda discloses concentrating a second fruit concentrate to obtain a high total soluble solids of 72° Brix (example 2, column 4, lines 28-34). However, Janda fails to disclose that the concentrating occurs using a thin film evaporator at a temperature of 40-45° C with a system pressure (vacuum 22-24 inches). However, Mouri et al disclose a method for concentrating similar fruit concentrates using a thin film evaporator (column 6, lines 35-40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the temperature and system pressure for the intended application, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980)

16. It would have been obvious to one having ordinary skill in the art at the time of the invention to use a thin film evaporator as disclosed by Mouri et al to perform the concentration of a fruit juice as disclosed by Janda, because thin film evaporators are efficient devices for concentrating liquids (Mouri, column 6, lines 35-40).

17. Regarding **claim 7**, Janda in view of Mouri discloses the process of claim 1, wherein the pectinolytic enzyme comprises pectinase (Janda, column 2, line 61). Although Janda does not explicitly disclose the enzyme activities, it would have been obvious to one having ordinary skill in the art to adjust the enzyme activities for the intended purpose, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- 19. GB 2139471 A
- 20. US 1870588 A
- 21. US 1999443 A
- 22. US 20030129279 A1
- 23. US 20060099309 A1
- 24. US 3031307 A
- 25. US 4211799 A
- 26. US 4716044 A
- 27. US 5172487 A
- 28. WO 9005463 A1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW KRAUSE whose telephone number is (571)270-7094. The examiner can normally be reached on 7:30-5, off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571)272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ANDREW KRAUSE/
Examiner, Art Unit 4152

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 4152